

WHAT IS CLAIMED IS:

1. A light source comprising:
a lamp envelope made of a light transmissive material, wherein the envelope has an ellipsoidal portion disposed centrally between tubular portions disposed on opposite ends of the ellipsoidal portion;
5 a filament centrally disposed within the envelope;
an infrared reflective filter coating disposed on at least a portion of the lamp envelope in surrounding relation to the filament;
a totally reflecting coating disposed on at least one end of the envelope in surrounding relation to the filament.

10 2. The light source of claim 1 further comprising a pair of lead wires connected to opposite ends of the filament for energizing the filament.

15 3. The light source of claim 1 further comprising a lead wire connected to an end of the filament and for energizing the filament.

20 4. The light source of claim 1 wherein the ellipsoidal portion having first and second foci associated therewith; and wherein the length of the filament fits substantially between the first and second optical foci for absorbing substantially all the radiation reflected from the infrared reflective filter and the totally reflecting coating.

25 5. The light source of claim 1 wherein the infrared reflective filter coating has alternate layers of respective high and low refractive indices for selectively passing desired radiation through and reflecting unwanted radiation to the filament.

6. The light source of claim 5 wherein the unwanted radiation includes infrared radiation.

30 7. The light source of claim 1 wherein the totally reflecting coating directs radiation towards the filament.

8. The light source of claim 1 wherein the totally reflecting coating is disposed on portions of both ends of the envelope subtending an angle from approximately 22° and greater from an axis aligned with the filament.

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9. The light source of claim 1 wherein the totally reflecting coating is disposed on both ends of the envelope subtending an angle from approximately 22° to 45° from an axis aligned with the filament.

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10. A light source comprising:

a lamp envelope made of a light transmissive material;

a filament disposed within the envelope;

an infrared reflective filter coating disposed on at least a portion of the lamp envelope in surrounding relation to the filament;

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a totally reflecting coating disposed on an end of the envelope in surrounding relation to the filament.

11. The light source of claim 10 wherein the totally reflecting coating is provided on both end regions of an ellipsoidal portion of the envelope.

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12. The light source of claim 10 wherein the totally reflecting coating is provided on end regions of an ellipsoidal portion of the envelope and tubular portions extending from opposite ends of the ellipsoidal portion.

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13. The light source of claim 12 wherein the ellipsoidal portion has first and second foci associated therewith; and wherein the length of the filament is located substantially between the first and second optical foci for absorbing substantially all the radiation reflected from the infrared reflective filter and the totally reflecting coating.

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14. The light source of claim 10 wherein the infrared reflective filter coating has alternate layers of respective high and low refractive indices for selectively passing desired radiation through and reflecting unwanted radiation to the filament.

15. The light source of claim 14 wherein the unwanted radiation includes infrared radiation.

5 16. The light source of claim 10 wherein the totally reflecting coating directs radiation towards the filament.

10 17. The light source of claim 10 wherein the totally reflecting coating is disposed on portions of both ends of the envelope subtending an angle from approximately 22° and greater from an axis aligned with the filament.

15 18. The light source of claim 10 wherein the totally reflecting coating is disposed on both ends of the envelope subtending an angle from approximately 22° to 45° from an axis aligned with the filament.

19. The light source of claim 18 wherein the totally reflecting coating is provided on end regions of an ellipsoidal portion of the envelope and tubular portions extending from opposite ends of the ellipsoidal portion.

20 20. The light source of claim 10 further comprising a reflector receiving visible light from the light source, the totally reflecting coating matching useful reflecting areas of the reflector.